

CLAIMS:

1. A method for setting a control parameter for an electric power steering device comprising:
 - a first resolver for detecting a first steering angle including a rotation angle of a steering shaft connected to a steering wheel;
 - a second resolver for detecting a second steering angle including a rotation angle of the steering shaft, the second resolver including pole pairs different number from the first resolver;
 - a rack and pinion type steering mechanism including a rack shaft geared with a pinion shaft coaxially connected to the steering shaft;
 - a motor for assisting an actuation of the rack shaft;
 - a third resolver for detecting a motor electric angle including a rotation angle of the motor; and
 - a control means for controlling the motor based on the absolute rotational position of the steering wheel obtained from the first steering angle, the second steering angle, and the motor electric angle; the setting method comprising process of:
 - obtaining a speed ratio between the steering shaft and the motor based on a mechanical angle at the steering shaft obtained from the first steering angle and the second steering angle and the motor electric angle of the motor; and
 - setting the speed ratio as a control parameter used for obtaining the absolute rotational position of the steering wheel from the first steering angle, the second steering angle, and the motor electric angle at the control means.
2. The method for setting the control parameter according to Claim 1, wherein the control means includes a memory means and the speed ratio or the control parameter is memorized at the memory means.
3. A setting device for a control parameter of the power steering device comprising:
 - a first resolver for detecting a first steering angle including a rotation angle of a steering shaft connected to a steering wheel;
 - a second resolver for detecting a second steering angle including a rotation angle of the steering shaft, the second resolver including pole pairs different number from the first resolver;

a rack and pinion type steering mechanism including a rack shaft geared with a pinion shaft coaxially connected to the steering shaft;
a motor for assisting an actuation of the rack shaft;
a third resolver for detecting a motor electric angle including a rotation angle of the motor; and
a control means for controlling the motor based on the absolute rotational position of the steering wheel obtained from the first steering angle, the second steering angle, and the motor electric angle, the setting device comprising:
a speed ratio calculation means for obtaining a speed ratio between the pinion shaft and the motor based on a mechanical angle at the pinion shaft side obtained from the first steering angle and the second steering angle and the motor electric angle of the motor; and
a parameter setting means for setting the obtained speed ratio at the control means as a control parameter used for obtaining the absolute rotational position of the steering wheel from the first steering angle, the second steering angle, and the motor electric angle.

4. The setting device for the control parameter according to Claim 3, wherein the control means includes a memory means and the speed ratio or the control parameter are memorized in the memory means.

5. An electric power steering device comprising:

a first resolver for detecting a first steering angle including a rotation angle of a steering shaft connected to a steering wheel;
a second resolver for detecting a second steering angle including a rotation angle of the steering shaft, the second resolver including pole pairs different number from the first resolver;
a rack and pinion type steering mechanism including a rack shaft geared with a pinion shaft coaxially connected to the steering shaft;
a motor for assisting an actuation of the rack shaft;
a third resolver for detecting a motor electric angle including a rotation angle of the motor; and

a control means for controlling the motor based on the absolute rotational position of the steering wheel obtained from the first steering angle, the second steering angle, and the motor electric angle; wherein

the motor is controlled based on the absolute rotational position of the steering wheel obtained from the first steering angle, the second steering angle, and the motor electric angle using a control parameter set by a setting method of the control parameter, the setting method comprising process of:

obtaining a speed ratio between the steering shaft and the motor based on a mechanical angle at the steering shaft obtained from the first steering angle and the second steering angle and the motor electric angle of the motor; and
setting the speed ratio as a control parameter used for obtaining the absolute rotational position of the steering wheel from the first steering angle, the second steering angle, and the motor electric angle at the control means.

6. The electric power steering device according to Claim 5, wherein the control means includes a memory means and the speed ratio or the control parameter is memorized at the memory means.

7. An electric power steering device comprising:

a first resolver for detecting a first steering angle including a rotation angle of a steering shaft connected to a steering wheel;

a second resolver for detecting a second steering angle including a rotation angle of the steering shaft, the second resolver including pole pairs different number from the first resolver;

a rack and pinion type steering mechanism including a rack shaft geared with a pinion shaft coaxially connected to the steering shaft;

a motor for assisting an actuation of the rack shaft;

a third resolver for detecting a motor electric angle including a rotation angle of the motor; and

a control means for controlling the motor based on the absolute rotational position of the steering wheel obtained from the first steering angle, the second steering angle, and the motor electric angle; wherein

the motor is controlled based on the absolute rotational position of the steering wheel obtained from the first steering angle, the second steering angle, and the motor

electric angle using the control parameter set by a setting device of a control parameter, further comprising:

a speed ratio calculation means for obtaining a speed ratio between the steering shaft and the motor based on a mechanical angle at the steering shaft obtained from the first steering angle and the second steering angle and the motor electric angle of the motor; and

a parameter setting means for setting the obtained speed ratio at the control means as a control parameter used for obtaining the absolute rotational position of the steering wheel from the first steering angle, the second steering angle, and the motor electric angle.

8. The electric power steering device according to Claim 7, wherein the control means includes a memory means and the speed ratio or the control parameter are memorized in the memory means.